UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,811	11/14/2003	Carolyn L. Sheldon	COS-819 (APIP-1151US)	2575

25264 7590 06/04/2007

FINA TECHNOLOGY INC
PO BOX 674412
HOUSTON, TX 77267-4412

EXAMINER	
ZACHARIA, RAMSEY E	

ART UNIT	PAPER NUMBER
1773	

MAIL DATE	DELIVERY MODE
06/04/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/713,811
Filing Date: November 14, 2003
Appellant(s): SHELDON ET AL.

T.R. Krueger, P.C.
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 12 January 2007 appealing from the Office action mailed 21 April 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,096,843	SAITO et al.	08-2000
5,393,598	SCHLECKER	02-1995
2004/0013870 A1	SHELDON et al.	01-2004
2003/0183975 A1	GOWNDER et al.	10-2003

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim 16 stands rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 16 recites the limitation "the co-catalyst" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claims 1, 2, 4, 5, 9-14, 17-20, 26 and 27 stand rejected under 35 U.S.C. 102(e) as being anticipated by Sheldon et al. (US 2004/0013870 A1)

Sheldon et al. teach a polypropylene slit film tape that may be used in woven materials or fabrics (paragraph 0002). The tape has a draw ratio of about 3:1 to 10:1 and a tenacity of at least 5 g/den (paragraph 0007). The polypropylene is an isotactic polypropylene that may be prepared using a metallocene catalysts (paragraph 0028). Additives may be incorporated into the tape (paragraph 0030).

Regarding claims 10, 11 and 27, the polypropylene of Sheldon et al. should inherently comprise an isotacticity of less than about 99.0% and an insertion error of more than about 2.0% because Sheldon et al. uses a metallocene catalyst to form the isotactic polypropylene. According to the instant specification, the use of a metallocene catalyst (as opposed to a Ziegler-Natta catalyst) inherently results in a polypropylene that comprise an isotacticity of less than about 99.0% and an insertion error of more than about 2.0% (see Example 1, paragraph 0034 on pages 15-16).

Moreover, it appears from the instant specification that woven products of a tape comprising isotactic polypropylene having a tenacity of at least about 2.5 g/den typically exhibit a tenacity of within about 10.0% of the tenacity of the film product (see paragraph 0014 on page 5). Thus, because Sheldon et al. teach a woven product formed from a slit film tape comprising isotactic polypropylene having a tenacity of at least about 2.5 g/den, one skilled in the art would expect the tenacity of their woven product to inherently be within about 10.0% of the tenacity of the film product.

Claims 1, 2, 4, 5, 9-20, 26, and 27 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Schlecker (U.S. Patent 5,393,598) in view of Gownder et al. (US 2003/0183975 A1).

Schlecker teaches a fabric comprising a layer of woven from flattened tapes of polypropylene (column 3, lines 15-22).

Schlecker is silent as to the physical properties of the polypropylene flattened tapes.

Gownder et al. teach a polymer slit film comprising an isotactic polypropylene prepared in the presence of a metallocene catalyst (paragraph 0012). The film has a draw range between about 4.5:1 to 12:1 (paragraph 0033). The catalyst may be a mixture of catalysts including organoaluminum compounds (paragraph 0028). The film may have a tenacity of at least 5 g/den (Figure 3). Additives may be included in the polymer (paragraph 0023). The slit tape of Gownder et al. exhibits greater percentage elongation at break and a higher tenacity than conventional polypropylene tapes (paragraph 0013).

Regarding claims 10, 11 and 27, the polypropylene of Gownder et al. should inherently comprise an isotacticity of less than about 99.0% and an insertion error of more than about 2.0% because Gownder et al. uses a metallocene catalyst to form the isotactic polypropylene. According to the instant specification, the use of a metallocene catalyst (as opposed to a Ziegler-Natta catalyst) inherently results in a polypropylene that comprise an isotacticity of less than about 99.0% and an insertion error of more than about 2.0% (see Example 1, paragraph 0034 on pages 15-16).

Moreover, it appears from the instant specification that woven products of a tape comprising isotactic polypropylene having a tenacity of at least about 2.5 g/den typically exhibit a tenacity of within about 10.0% of the tenacity of the film product (see paragraph 0014 on page 5). Thus, because Gownder et al. teach a slit film tape comprising isotactic polypropylene having a tenacity of at least about 2.5 g/den, one skilled in the art would expect the tenacity of a woven product produced from such a slit film tape to inherently be within about 10.0% of the tenacity of the film product.

One skilled in the art would be motivated to use the tape of Gownder et al. as the flattened polypropylene tapes of Schlecker because it exhibits greater percentage elongation at break and a higher tenacity than conventional polypropylene tapes.

Claims 1, 2, 4, 5, 9-20, 26, and 27 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Schlecker (U.S. Patent 5,393,598) in view of Saito et al. (U.S. Patent 6,096,843).

Schlecker teaches a fabric comprising a layer of woven from flattened tapes of polypropylene (column 3, lines 15-22).

Schlecker is silent as to the physical properties of the polypropylene flattened tapes.

Saito et al. teach an isotactic polypropylene formed from propylene polymerized in the presence of a metallocene catalyst in combination with an organoaluminum compound (column 2, lines 11-54). The polypropylene is designed to exhibit a high tenacity (column 1, lines 10-18). The polypropylene may be formed into a film or fiber (column 8, lines 25-31). In the embodiment of Example 3, the polypropylene is formed into a film and drawn at ratios of 4.2:1 and 8.2:1 (column 11, line 55-column 12, line 4). The polypropylene of Saito et al. exhibits high tenacity, heat resistance, and high-temperature rigidity (column 1, lines 10-17).

Saito et al. do not report the tenacity of their polymer in g/den. However, the polymer is designed to have a high tenacity, is formed using the same polymerization system as the instant invention (i.e. a metallocene catalyst in conjunction with an oragnoaluminum compound), and is drawn at the same ratio as the instant invention (i.e. about 5.0:1 to about 10.0:1). Therefore, the tenacity of the resulting material should inherently be the same as that of the instant invention. Moreover, in the event that the tenacity of the film of Saito et al. is not inherently the same as that of the instant invention, it would be obvious to one skilled in the art to optimize the reaction and processing conditions to obtain a given tenacity since Saito et al. is directed towards producing a polypropylene having a high tenacity.

Moreover, it appears from the instant specification that woven products of a tape comprising isotactic polypropylene having a tenacity of at least about 2.5 g/den typically exhibit a tenacity of within about 10.0% of the tenacity of the film product (see paragraph 0014 on page

5). Thus, because Saito et al. teach a slit film tape comprising isotactic polypropylene that should have a tenacity of at least about 2.5 g/den, one skilled in the art would expect the tenacity of a woven product produced from such a slit film tape to inherently be within about 10.0% of the tenacity of the film product.

One skilled in the art would be motivated to form the flattened tapes of Schlecker with the polypropylene of Saito et al. to yield a woven fabric having high tenacity, heat resistance, and high-temperature rigidity.

(10) Response to Argument

Rejection over Sheldon et al.

The Appellant argues that the Examiner has not met the burden of proving that a woven article formed from a slit film having a tenacity that overlaps the claimed ranges inherently exhibits a tenacity that is within 10% of the tenacity of the slit film. The Appellant argues that the polypropylene of Sheldon et al. may be formed using conventional catalysts and that the Examiner has not demonstrated that one skilled in the art recognized that metallocene polypropylene films may be capably of producing a lower drop in tenacity during weaving than Ziegler-Natta film. The Appellant further argues that the Examiner has misread paragraph 0014 of the specification since the "film product" referred to therein is the inventive film product and not just any isotactic polypropylene.

In response, the Examiner notes that Sheldon et al. (in paragraph 0028) explicitly teach the use of metallocene catalysts for forming their isotactic polypropylene slit tape. That is, Sheldon et al. teach a polypropylene film, formed with metallocene catalysts, having a tenacity

and a draw ratio that overlap the claimed film. Sheldon et al. further teach that their isotactic polypropylene slit tape may be used to product a woven product.

Because:

(1) the starting material of Sheldon et al. appears to be the same as that of the instant invention (i.e. isotactic polypropylene slit tapes formed with metallocene catalysts having overlapping tenacities and draw ratios),

(2) neither Sheldon et al. nor the instant application teach or employ any special or unconventional weaving techniques, and

(3) the Appellant's own specification indicates that a typical woven product produced from the inventive film has a tenacity within about 10% of the tenacity of the film product,

the Examiner believes that he has met his burden in establishing that a woven product formed from the slit tape of Sheldon et al. will inherently have a tenacity of about 10% of the tenacity of the slit tape.

Rejections over Schlecker in view of Gownder et al. or Saito et al.

The Appellant argues that the Examiner has not presented a *prima facie* case of obviousness for the same reasons as the Examiner has not demonstrated inherency based on anticipation.

In response, the Examiner notes that the polypropylene slit film taught by Gownder et al. and Saito et al. appear to be the same as that of the instant invention for the following reasons: (1) both slit films are formed of metallocene catalyzed isotactic polypropylene, (2) both have draw ratios that overlap the claimed range, and (3) the film of Gownder et al. has a tenacity that

is completely within the claimed range while the film of Saito et al. is designed to exhibit high tenacity. Since the primary reference (Schlecker) does not employ any special or unconventional weaving techniques, the resulting woven product should intrinsically possess a tenacity that is about 10% of the tenacity of the slit film.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Ramsey Zacharia

Ramsey Zacharia
Primary Examiner
Tech Center 1700

Conferees:

Carol Chaney

CAROL CHANEY
SUPERVISORY PATENT EXAMINER

Jennifer K[redacted]-Michener

JENNIFER MICHENER
QUALITY ASSURANCE SPECIALIST